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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,646	12/22/2003	Teresa Grocela Rocha	GE 129438	7273

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EXAMINER

JOHNSON, EDWARD M

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,646

Applicant(s)

ROCHA ET AL.

Examiner

Edward M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 16-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-15 in the reply filed on 9/7/05 is acknowledged. The traversal is on the ground(s) that there would be no serious burden and the inventions are of the same technical arts. This is not found persuasive because of reasons already of record. The inventions have a separate status in the art as shown by their separate classifications and both searches would not be required even if such searches could be made, as Applicant suggests.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12 and 15 are rejected under 45 U.S.C. 103(a) as being unpatentable over Okimura et al. US 5,955,046 in view of Park US 6,706,660 and Kepner et al. US 6,342,191.

Okimura et al. discloses a catalytic material for removing nitrogen oxides, wherein the catalytic system is comprised of a complex oxide containing gallium, zinc, and alumina (see abstract).

The zinc catalytic component comprises about at least 0-50 mol.% and the gallium catalytic component comprises about at least 0-80 mol.% (see abstract and column 3, lines 55-62).

Okimura et al. continues to disclose a methane reductant as well (column 4, lines 50-54). Okimura et al. also discloses wherein the catalytic material may be formed into a honeycomb shape (col. 9, lines 4-10).

However, Okimura et al. does not disclose a metal oxide catalyst support.

Park teaches a lean nitrogen oxide catalyst, which includes an alumina support material and promoters or catalytic dopants, such as indium, gallium, tin, cobalt, vanadium, silver and combinations thereof (see abstract).

Kepner et al. teaches a catalyst for the reduction of nitrogen oxides, which include combinations of metal oxides including zinc, silver, tungsten, tin, cobalt, as well as indium and gallium, wherein the amount of the catalytic oxide may vary (column 20, lines 6-42). Therefore, it would have been obvious to one of ordinary skill in the art to achieve the desired mole

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ratios in order to achieve a desired catalyst system for reducing nitrogen oxides.

Therefore, it would have been obvious to one of ordinary skill in the art to utilize a catalyst comprised of gallium and iridium, along with metals such as zinc, tin, and silver on a metal oxide support with respect to the teachings of Okimura et al. in view of Park, because Park teaches a lean nitrogen oxide catalyst, which includes an alumina support material and promoters or catalytic dopants, such as indium, gallium, and other catalytic metals for the reduction of nitrogen oxides and Kepner et al. teaches wherein it is known in the art to combine metal oxides, which include zinc, silver, tungsten, tin, cobalt, as well as indium and gallium, wherein the amount of the catalytic oxide may vary.

Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art would have expected a process for reducing nitrogen oxides with a catalyst comprised of gallium as taught by Park and Kepner et al. to have been similarly useful and applicable to a process for reducing nitrogen oxides using a catalyst comprised of gallium as taught by Okimura et al.

4. Claims 13-14 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okimura '046 in view of Park '660 and

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Kepner '191, as applied to claims 1-12 and 15 above, and further in view of Balmer-Millar US 2003/0118960.

Applicant claims with respect to claims 13 and 14, wherein the reductant is gasoline.

The teachings of Okimura et al. in view of Park and Kepner et al. have been discussed with respect to claims 1-12 and 15. Okimura et al. discloses wherein methane may be used as a reducing agent, but is silent in regards with respect to the limitations of claims 13 and 14.

However, Balmer-Millar teaches a fuel source of a hydrocarbon base, which includes gasoline and other hydrocarbons, which include alcohols, aldehydes, and ketones (see page 2 and page 4). Furthermore, Balmer-Millar teaches a lean nitrogen oxide catalyst comprised of indium and gallium (see page 2).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Okimura in view of Park and Kepner, by utilizing a reducing agent comprised of gasoline for treating nitrogen oxides, since Balmer-Millar teaches a fuel source of a hydrocarbon base, which includes gasoline and other hydrocarbons, which include alcohols, aldehydes, and ketones used for treating nitrogen oxides. Such modification would have been obvious to one of ordinary skill in

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the art, because one of ordinary skill in the art would have expected a process for treating nitrogen oxides in exhaust gases as taught by Balmer-Millar to have been similarly useful and applicable to a process for reducing nitrogen oxides as taught by Okimura et al. in view of Park and Kepner et al.

Regarding claims 24-25, it also would have been obvious to the ordinary artisan to use at least octane because gasoline and other hydrocarbons are disclosed, which would motivate one of ordinary skill to use octane from the disclosed gasoline.

Response to Arguments

5. Applicant's arguments filed 9/7/05 have been fully considered but they are not persuasive.

It is argued that Okimura discloses a catalytic system comprising a complex oxide as a main phase. This is not persuasive because Applicant does not claim any particular structure or a structure that is not a spinel structure, as Applicant appears to suggest. It is noted that the features upon which applicant relies (i.e., any particular structure or a structure that is not a spinel structure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that Kepner describes a catalyst and binder system... unsubstituted adsorbent. This is not persuasive because Applicant claims a system using open language "comprising", which does not exclude other features, such as "binder" or "adsorbent" as Applicant appears to suggest.

It is argued that Park describes a catalyst system including... promoter or dopant. This is not persuasive because methane and propene are disclosed, which would motivate one of ordinary skill to use other lower hydrocarbons at least including a butene or butane.

It is argued that as noted, Okimura and Kepner... the present invention. This is not persuasive for the reasons above and also because one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

It is argued that Balmer-Miller describes a NOx after-treatment system. This is not persuasive because Balmer-Miller discloses reductants such as diesel fuel and gasoline (see [0004] and [0015]).

Conclusion

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6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

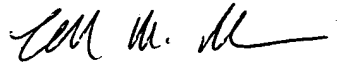
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the

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organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Edward M. Johnson
Primary Examiner
Art Unit 1754

EMJ